

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - REVISED

PERMITTEE

Bodycote Thermal Processing
Attn: Chuck Kenny
1975 North Ruby Street
Melrose Park, Illinois 60610-1162

Application No.: 73031764

I.D. No.: 031186AAM

Applicant's Designation:

Date Received: May 26, 2005

Subject: Heat Treating of Metal Parts

Date Issued: August 16, 2005

Expiration Date: June 4, 2006

Location: 1975 North Ruby Street, Melrose Park

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 31 gas-fired heat treating furnaces, 4 gas-fired gas generators, 2 gas-fired boilers, 3 salt quench tanks, 4 parts washers, 9 oil quench tanks, and 4 molten salt pots, pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special conditions:

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 25 tons/yr for volatile organic materials, 100 tons/yr for nitrogen oxides, 25 tons/yr for combined hazardous air pollutants (HAP), and 10 tons/yr for any individual HAP). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to the initial issuance of this permit, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. Natural gas shall be the only fuel fired in the combustion equipment at the plant including the heat treating furnaces, gas generators, boilers, salt quench tanks and parts washers.
- b. Combined natural gas usage for the equipment indicated above shall not exceed the following limits:

Natural Gas Usage: 37.1 mmscf/month; 445 mmscf/year.
- c. Gas-fired fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the fuel combustion equipment:

<u>Pollutant</u>	<u>Fuel Usage (mmscf/Yr)</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>Emissions (Ton/Yr)</u>
NO _x	445	100	22.25
CO	445	84	18.69
VOM	445	5.5	1.22
SO ₂	445	0.6	0.13
PM	445	7.6	1.69

These emissions are based upon standard AP-42 emission factors at the maximum annual fuel usage.

- 3a. Cleaner usage, VOM content, and VOM emissions from all parts washers shall not exceed the following limits:

<u>Material</u>	<u>Cleaner Usage</u>		<u>VOM Content</u>	<u>VOM Emissions</u>	
	<u>(Lb/Wk)</u>	<u>(Ton/Yr)</u>	<u>(Wt %)</u>	<u>(Lb/Wk)</u>	<u>(Ton/Yr)</u>
Cleaner	250	6.5	2.0	5.0	0.13

- b. The oil make-up rate, VOM content and VOM emissions for all oil quench tanks shall not exceed the following limits:

<u>Material</u>	<u>Oil Make-up Rate</u>		<u>VOM Content</u>	<u>VOM Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Wt %)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Oil	12,500	46.6	100	6,250	23.3

These limits are based upon the maximum oil make-up rate, and maximum VOM emissions assuming 50% oil reclamation.

4. This permit is issued based on negligible emissions of particulate matter from each salt quench tank and molten salt pot. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
5. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- 6a. The Permittee shall maintain records of the following items to allow the Illinois EPA and USEPA to review compliance.
- i. Usage of materials (oil, cleaner, etc.) (lb/month and ton/yr).
 - ii. VOM and HAP content of materials used (wt. % VOM and wt. % HAP).

- iii. VOM and HAP emissions (lb/week and ton/yr) from all parts washers as calculated by the material usage, VOM content and HAP content.
 - iv. VOM and HAP emissions (lb/month and ton/yr) from all oil quench tanks as calculated by the material usage, VOM content, HAP content, and waste oil shipped off site for reclamation.
 - v. Total natural gas usage for the fuel combustion emission units (mmscf/month and mmscf/yr).
 - vi. Nitrogen Oxide (NO_x) emissions as calculated by AP-42 emission factors (lb/month and ton/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
7. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
8. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
- and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016
9. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1 of each year: Volatile Organic Material and Hazardous Air Pollutant usage and emissions, and natural gas usage and nitrogen oxides emissions from the prior calendar year.

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If there have been no excesses during the prior calendar year the Annual Emissions Statement shall include a statement to that effect.

It should be noted that this permit has been revised to incorporate addition of 10 gas-fired heat treating furnaces, and one parts washer, all constructed in 2003.

If you have any questions on this, please call George Kennedy at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from this facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, e.g., 100 tons/yr for nitrogen oxides, 25 tons/yr for combined HAPs and 10 tons/yr for an individual HAP, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

	VOM	E M I S S I O N S			
	NO _x	CO	SO ₂	PM	
	(Ton/Yr)	(Ton/Yr)	(Ton/Yr)	(Ton/Yr)	(Ton/Yr)
Combustion	1.22	22.25	18.69	0.13	1.69
Parts Washers	0.13				
Oil Quench Tanks	23.3				
Salt Quench Tanks					1.76
Molten Salt Pots					<u>1.76</u>
Totals:	<u>24.65</u>	<u>22.25</u>	<u>18.69</u>	<u>0.13</u>	<u>5.21</u>

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